

31st March 2021

Infrastructure NSW
C/- Tom Kennedy Consulting

RE: Powerhouse Parramatta

This document was prepared for Infrastructure NSW in relation to four (4) trees located at the Powerhouse Parramatta development at 34-54 & 30B Phillip Street and 338 Church Street, Parramatta. As background, treeiQ prepared an Arboricultural Impact Assessment Report & Tree Protection Specification (Rev A) in April 2020 to form part of the documentation supporting the State Significant Development (SSD) Development Application. Trees 2, 3, 4 and 8 were outlined to be removed within the April 2020 Report. Options to retain these trees are being reviewed by the project team as detailed below.

Refer to Tree Location Plan (**Appendix 1**)

Tree 2

Tree 2 is a *Casuarina glauca* (Swamp She Oak) and is a locally indigenous, late-mature specimen located on the southern riverbank. Tree 2 is of moderate Landscape Significance and has been allocated a Retention Value of *Consider for Retention*. The tree has a short (5-15 years) Useful Life Expectancy (ULE).

It is understood Tree 2 cannot be retained within the current design scheme due to works on the riverbank foreshore which has the potential to impact its structural stability.

Tree 3

Tree 3 is a *Jacaranda mimosifolia* (Jacaranda) and is a mature, exotic specimen located on the southern riverbank. The tree has a depressed seam of tissue is present on the lower trunk which has the appearance of a partially grafted bark inclusion. Tree 3 has a medium (15-40 years) ULE although it is estimated to fall within the lower end of this range. The tree is of high Landscape Significance and has been allocated a Retention Value of *Priority for Retention*.

It is understood Tree 3 is not being retained within the current scheme as the design is to replicate the original vegetation of the area and to include locally indigenous species only.

Trees 4 & 8

Trees 4 and 8 are *Corymbia maculata* (Spotted Gum) and are locally indigenous species located on the southern riverbank. The trees are of moderate Landscape Significance and have been allocated a Retention Value of *Consider for Retention*.

It is understood Trees 4 and 8 can be retained into the current design scheme. Trees 4 and 8 have radial Tree Protection Zone (TPZ) areas of 10.6m and 7.8m respectively based on *Australian Standard 4970 Protection of Trees on Development Sites (2009)*. However, in the case of Trees 4 and 8, it is assumed the spread of roots from the trees will have been restricted in the footprint of the existing carpark building to the south of the trees. Tree sensitive design and construction methods will need to be used within all other areas of the TPZ (as recommended by the Project Arborist) to minimise adverse impacts.

Refer to Plates **(Appendix 2)**

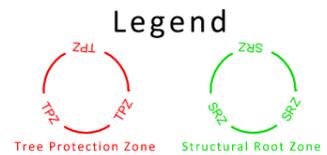
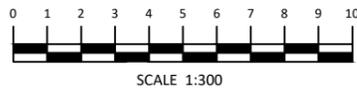
Early works have commenced on site and all trees to be retained should be protected in accordance with the Tree Protection Specification **(Appendix 3)** Typical Tree Protection Details **(Appendix 4)**.

Please do not hesitate to contact me if require any additional information or have any questions.



Anna Hopwood – Director

Appendix 1: Tree Location Plan



Museum of Applied Arts & Sciences
 Plan : TPZ & SRZ Plan
 Sheet 2
 Client: Create NSW,
 Department of Premier and Cabinet
 date: 6th October 2019
 scale: 1:300 (A3)



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Appendix 2: Plates

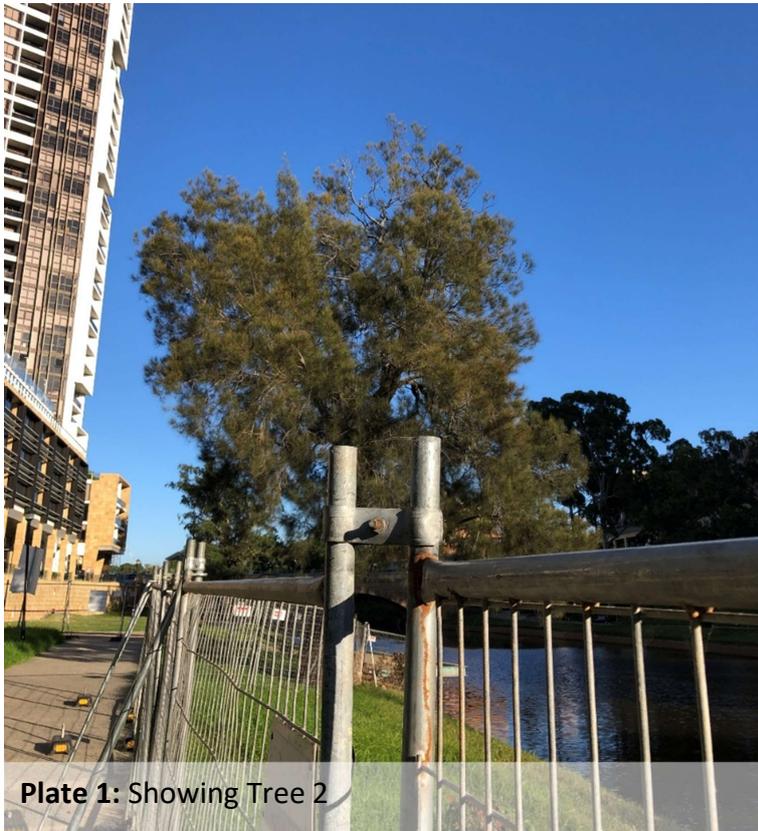


Plate 1: Showing Tree 2

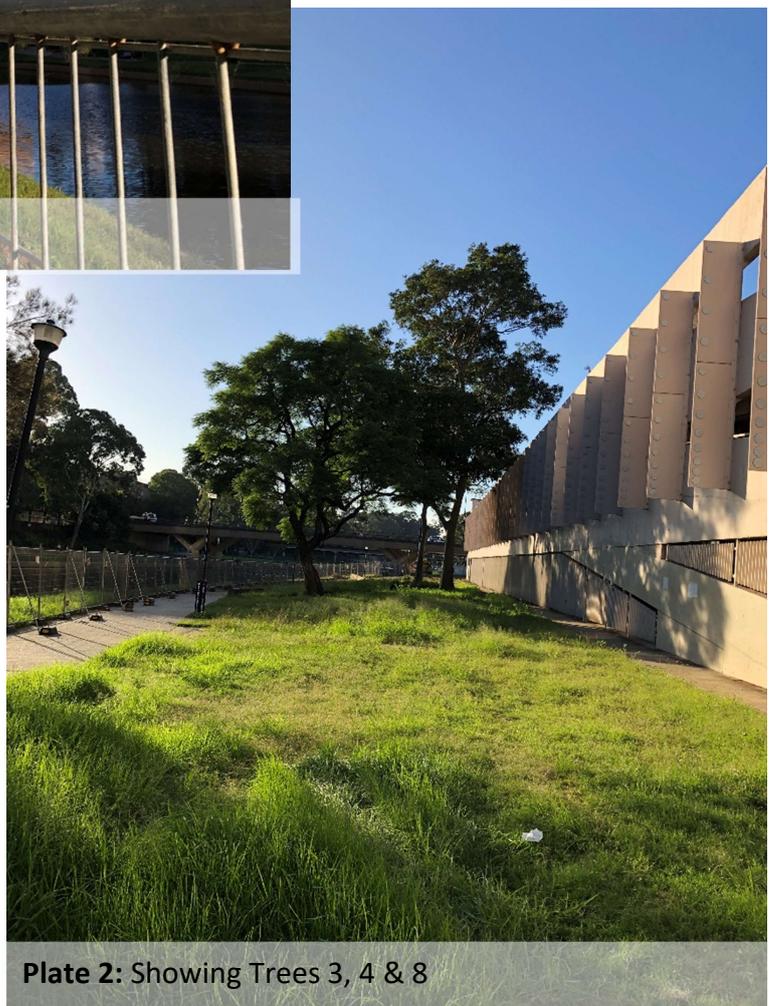


Plate 2: Showing Trees 3, 4 & 8

Appendix 3: Tree Protection Specification

1.0 Project Arborist

A Project Arborist shall be engaged prior the commencement of work on site and supervise works as indicated in this Tree Protection Specification. The Project Arborist shall have a minimum qualification equivalent (using the Australian Qualifications Framework) of AQF Level 5 or above in Arboriculture.

2.0 Tree Protection Zones

Works within the Tree Protection Zones (TPZ) shall be supervised by the Project Arborist. Machinery/vehicles working within the swing radius/close proximity of a tree shall work in conjunction with a spotter to ensure that adequate clearance from the trees is maintained at all times. Machinery shall not contact any part of the tree.

Vehicular and machinery movement within the TPZ shall be avoided wherever possible. Vehicular and machinery access within the TPZ shall be restricted solely to areas of existing pavement or where ground protection has been installed.

The area within the TPZ shall exclude the following activities, unless otherwise approved by the Project Arborist:

- Modification of existing soil levels, excavations or trenching
- Cultivation of the soil
- Mechanical removal of vegetation
- Storage of materials, plant or equipment, or erection of site sheds
- Affixing of signage or hoarding to the trees
- Preparation of building materials or refuelling
- Disposal of waste materials and chemicals
- Location of temporary or permanent services
- Any other activities that may cause damage to the trees

3.0 TPZ Fencing

TPZ fencing shall be installed at the perimeter of TPZ as shown on the Tree Location Plan (**Appendix 1**). Fencing shall consist of temporary mesh panel fencing (minimum height 1.8m) supported by concrete feet. In certain areas it may be possible to install site fencing to also serve as TPZ fencing. Star pickets may be driven into the ground (avoiding any visible surface roots) and wired to the steel mesh fencing on uneven ground where additional stability is required. Fencing may be setback to provide construction/demolition access only with prior approval from the Project Arborist. Ground protection shall be installed to the unfenced areas of the TPZ as determined by the Project Arborist.

4.0 Ground Protection

Machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection. Ground protection shall consist of a 100mm thick layer of coarse grade wood chip mulch overlaid with plywood sheets, HDPE ground mats or steel road plates.

5.0 Structure & Pavement Demolition

Demolition machinery is to be excluded from the TPZ unless operating from the existing slabs, pavements or areas of ground protection. Existing pavements/slabs to be demolished shall be lifted by working backwards out of the TPZ to ensure machinery remains on un-demolished sections of pavement/slab at all times. The broken-up slab/pavement shall be removed by hand where tree roots are present below the pavement surface. Removal by machine is not permitted due to the potential for impact damage to exposed roots. Wheelbarrow movements for the removal of the pavement shall remain on areas of existing intact pavement or ground protection only and shall not be positioned on the exposed surfaces and sub-base materials.

Where pavement/demolition cutting is required within a TPZ, the depth of the pavement surface shall be established by a series of trial cuts undertaken outside of the TPZ. No over-cutting of the existing pavement surface within the TPZ shall be undertaken. Existing sub-base materials within a TPZ shall remain in-situ and (and reused) if possible. If the existing sub-base is to be removed, these works shall be undertaken by hand/hand tools ensuring that tree roots are retained and protected.

Small structures to be demolished within a TPZ shall be carefully broken up in small sections using a hand-operated pneumatic/electric breaker and waste material removed by hand/ hand tools.

6.0 Existing Vegetation

Vegetation to be removed within a TPZ shall be carefully lifted using hand tools to prevent damage to roots (>25mm \varnothing).

7.0 Excavation & Root Protection

Where approved, excavation works within a TPZ shall utilise tree sensitive methods (i.e. hand, airspade or hydrovac). Excavation using compact machinery fitted with a flat bladed bucket is permissible where approved by the Project Arborist. Unless specified otherwise, excavation using compact machinery shall be undertaken in small increments, guided by a spotter who is to look for and prevent damage to roots (>25mm \varnothing).

When undertaking hydro-vacuum excavation, the tip of the high-pressure lance should not be pointed directly at roots at close range to avoid the removal or damage to bark. It is essential that the bark of roots remain intact.

Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with 10mm thick jute mat, followed by a layer of plastic membrane. Coverings shall be weighted to secure them in place. The mat shall be kept in a damp condition at all times. Root pruning shall be undertaken by the Project Arborist only.

8.0 Underground Services & Services Pits

Installation of underground services and services pits shall be located outside of the TPZ. Where this is not possible, they shall be installed using tree sensitive methods (i.e hand, airspade or hydrovac, see Section 7.0) with the services installed around/below roots (>25mm \varnothing) and pits relocated to avoid significant roots, as determined by the Project Arborist. Boring methods are permissible where approved by the Project Arborist. Excavations for starting and receiving pits for boring equipment should be located outside of the TPZ areas or located to avoid roots (>25mm \varnothing) as determined by the Project Arborist.

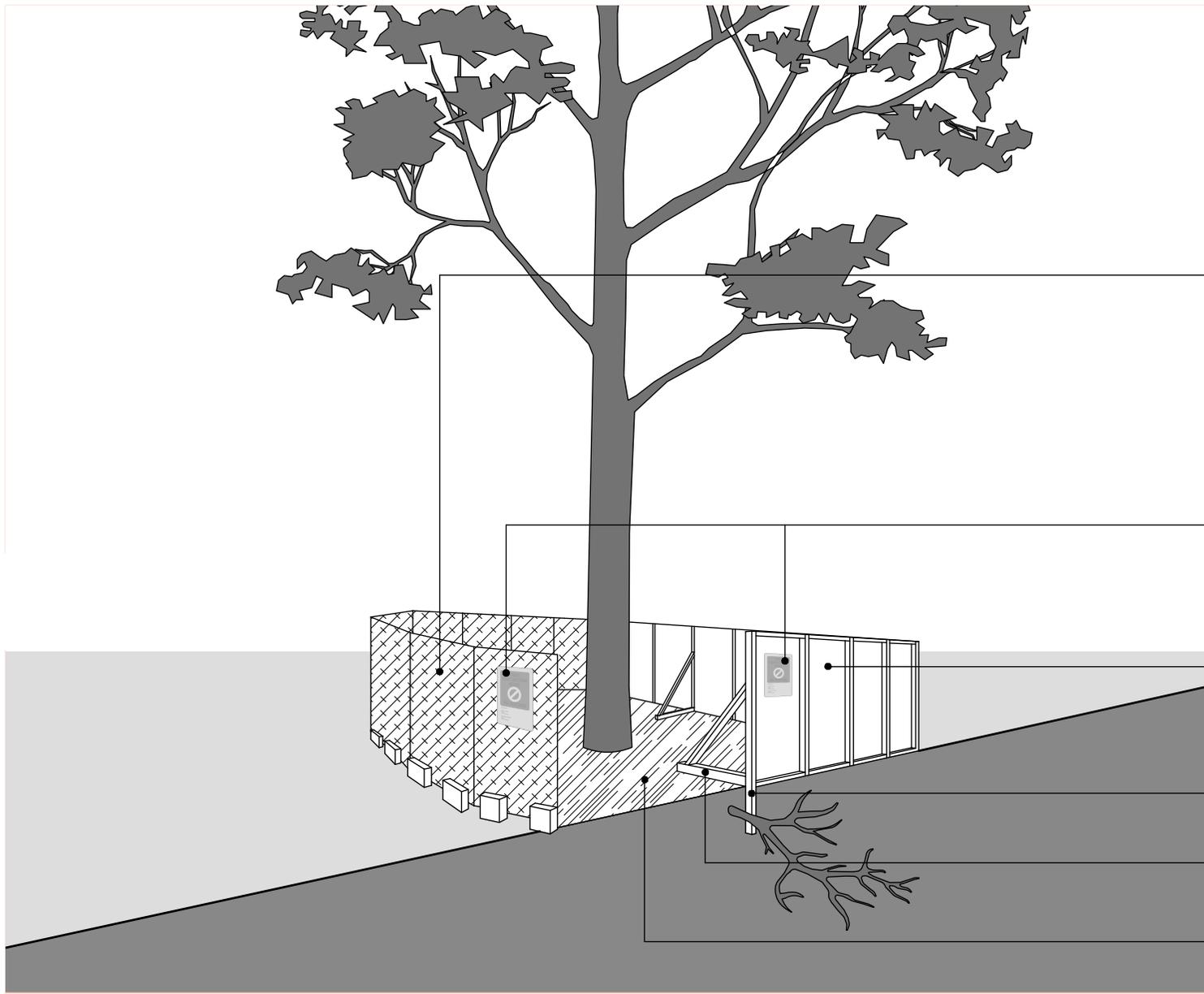
9.0 Tree Pruning

Minor Reduction Pruning shall be undertaken on Trees 4 and 8 to minimise damage from the demolition machinery. Branches should be less than 30mm in diameter and provide a maximum clearance of 500mm to the building. Pruning should account for less than 5% of the crown volume of the trees.

The Practicing Arborist should hold a minimum qualification equivalent (using the Australian Qualifications Framework) of Level 3 or above, in Arboriculture or its recognised equivalent. The Practicing Arborist should have a minimum of 3 years' experience in practical Arboriculture.

Pruning work should be undertaken in accordance with *Australian Standard 4373 Pruning of Amenity Trees (2007)*, *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal Work (2016)* and other applicable legislation and codes.

Appendix 4: Typical Tree Protection Details



Note:
 No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.

Option 1 - Fencing
 1.8m high chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet.

Tree Protection Zone (TPZ) sign

Option 2 - Fencing
 Plywood or wooden panel piling fence. This type of fencing material also prevents building materials or soil entering the TPZ.

Installation of supports should avoid damaging roots.

Bracing is permissible within the TPZ.

Maximum 100mm and minimum 50mm depth mulch or aggregate layer installed across surface of TPZ.